

● FIG. 1a

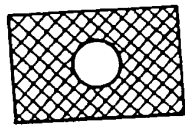


FIG. 1b



FIG. 1c

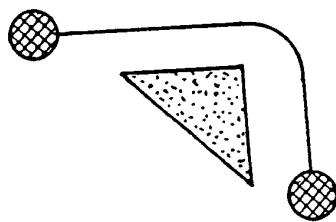


FIG. 1d

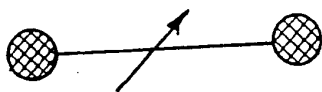


FIG. 1e

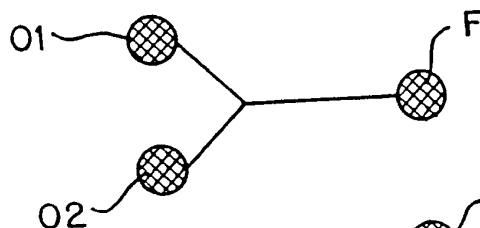


FIG. 1f

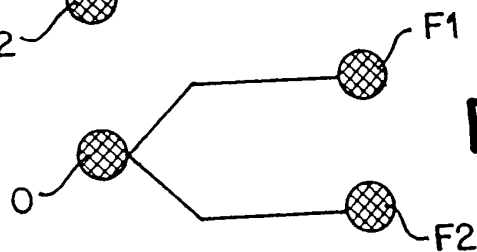


FIG. 1g

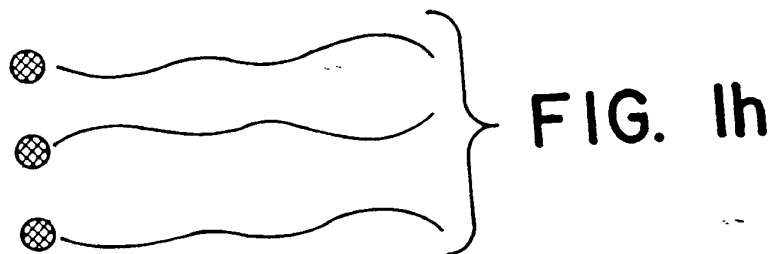


FIG. 1h

FIG. 2A

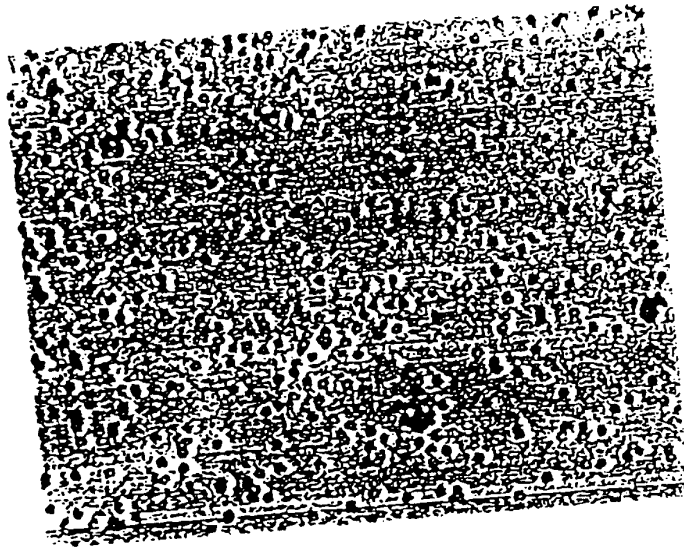
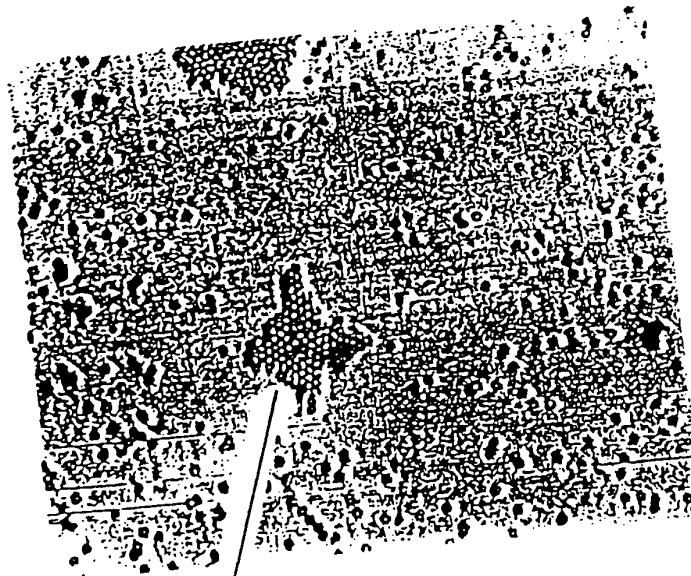


FIG. 2B



22

FIG. 2C

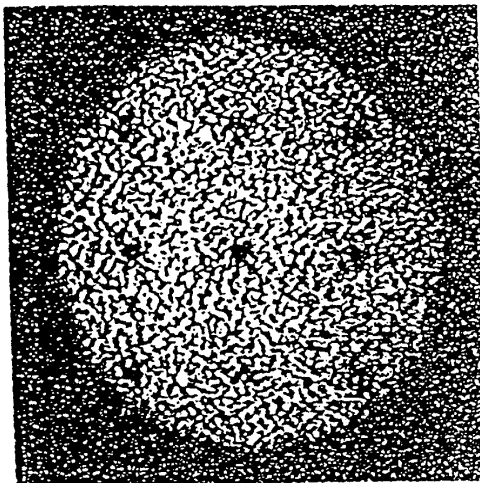


FIG. 2D

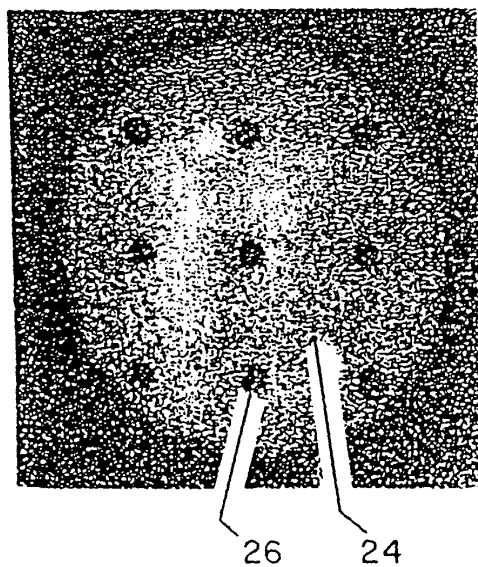


FIG. 3a

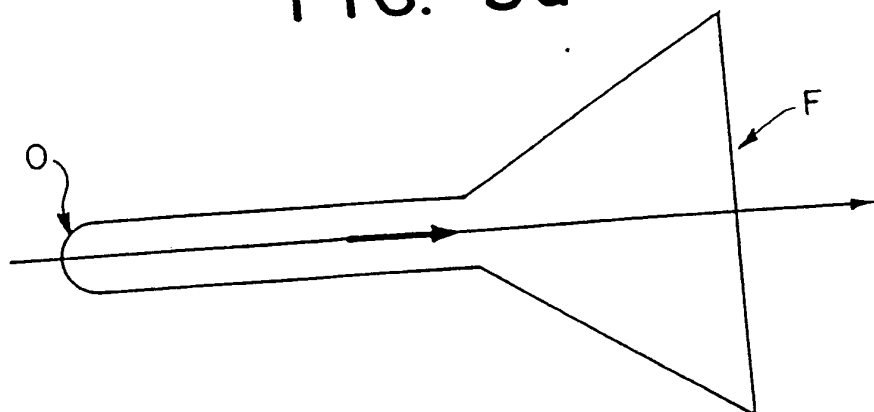


FIG. 3b



FIG. 3c

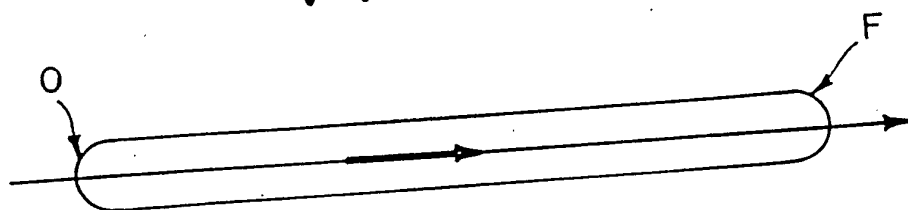


FIG. 3d



FIG. 3C

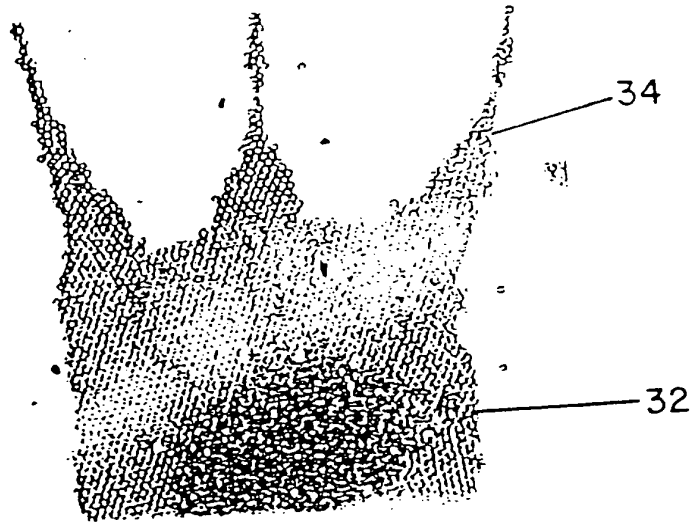


FIG. 3D

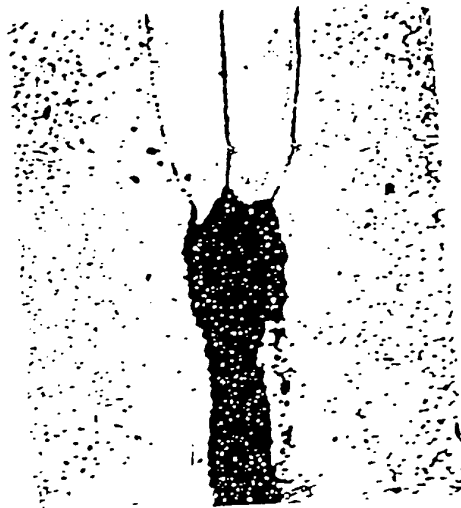


FIG. 4A

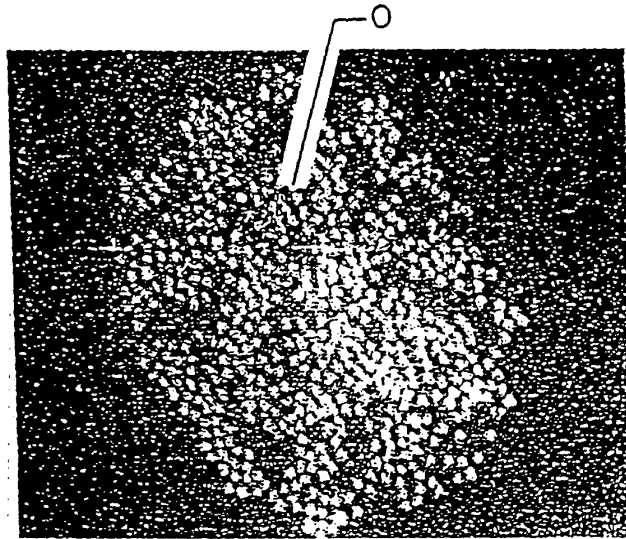


FIG. 4B

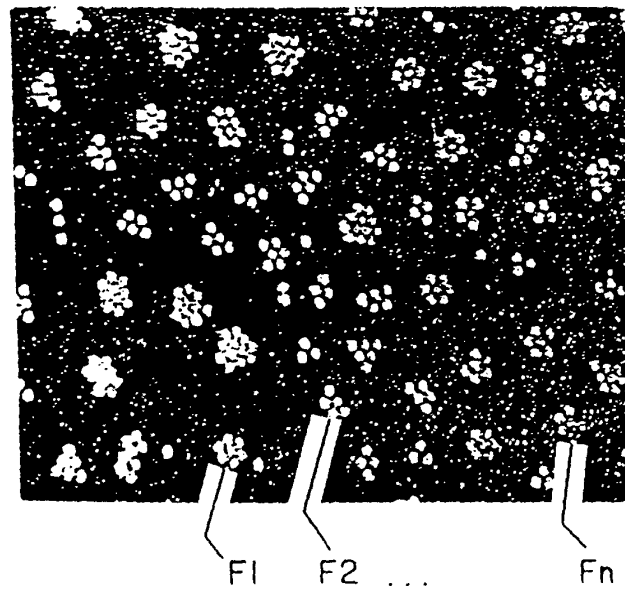


FIG. 5

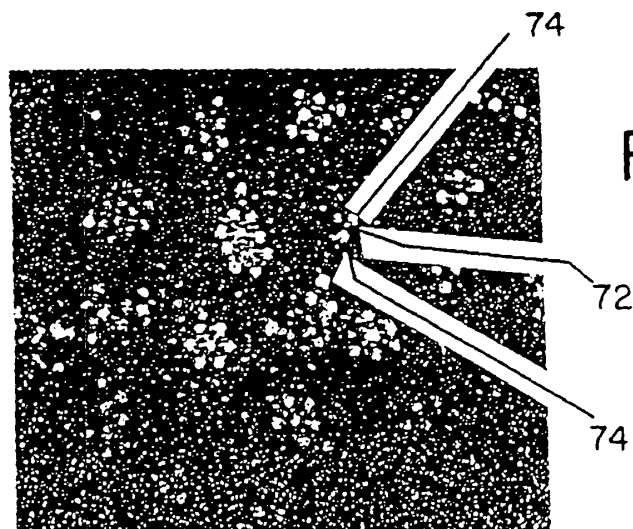
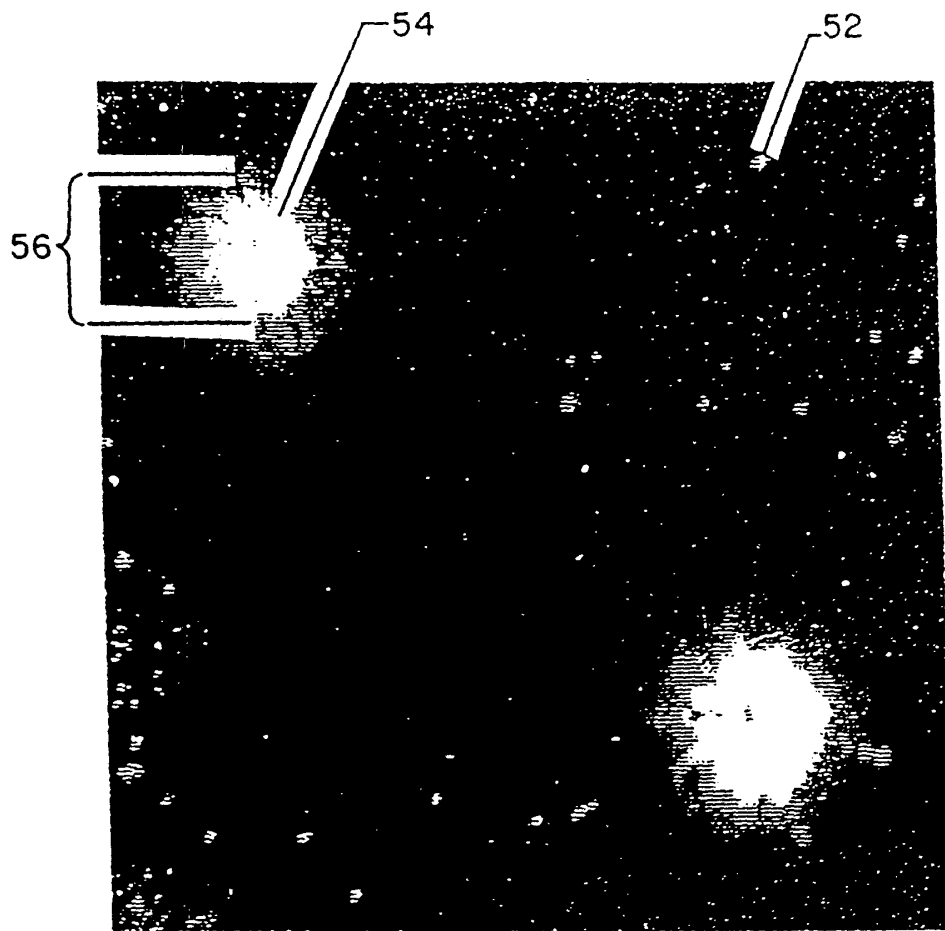


FIG. 7

FIG. 6a

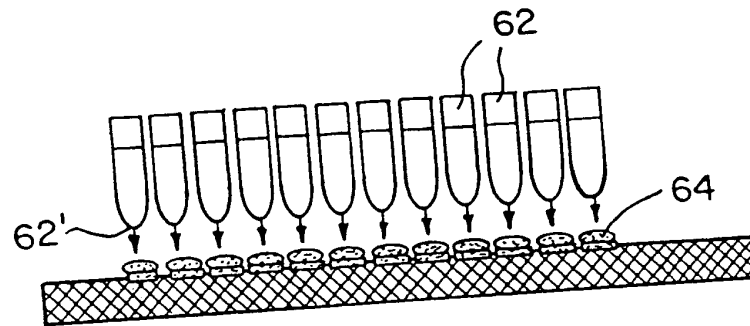


FIG. 6b

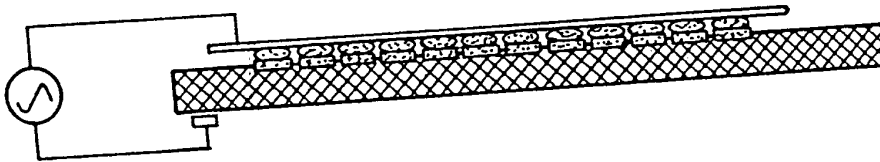


FIG. 6c

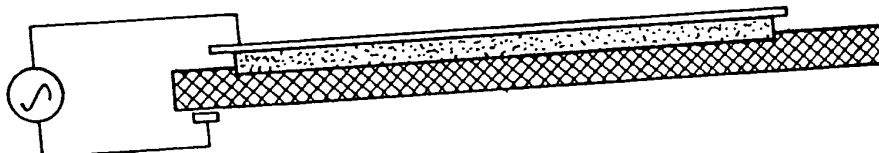


FIG. 8

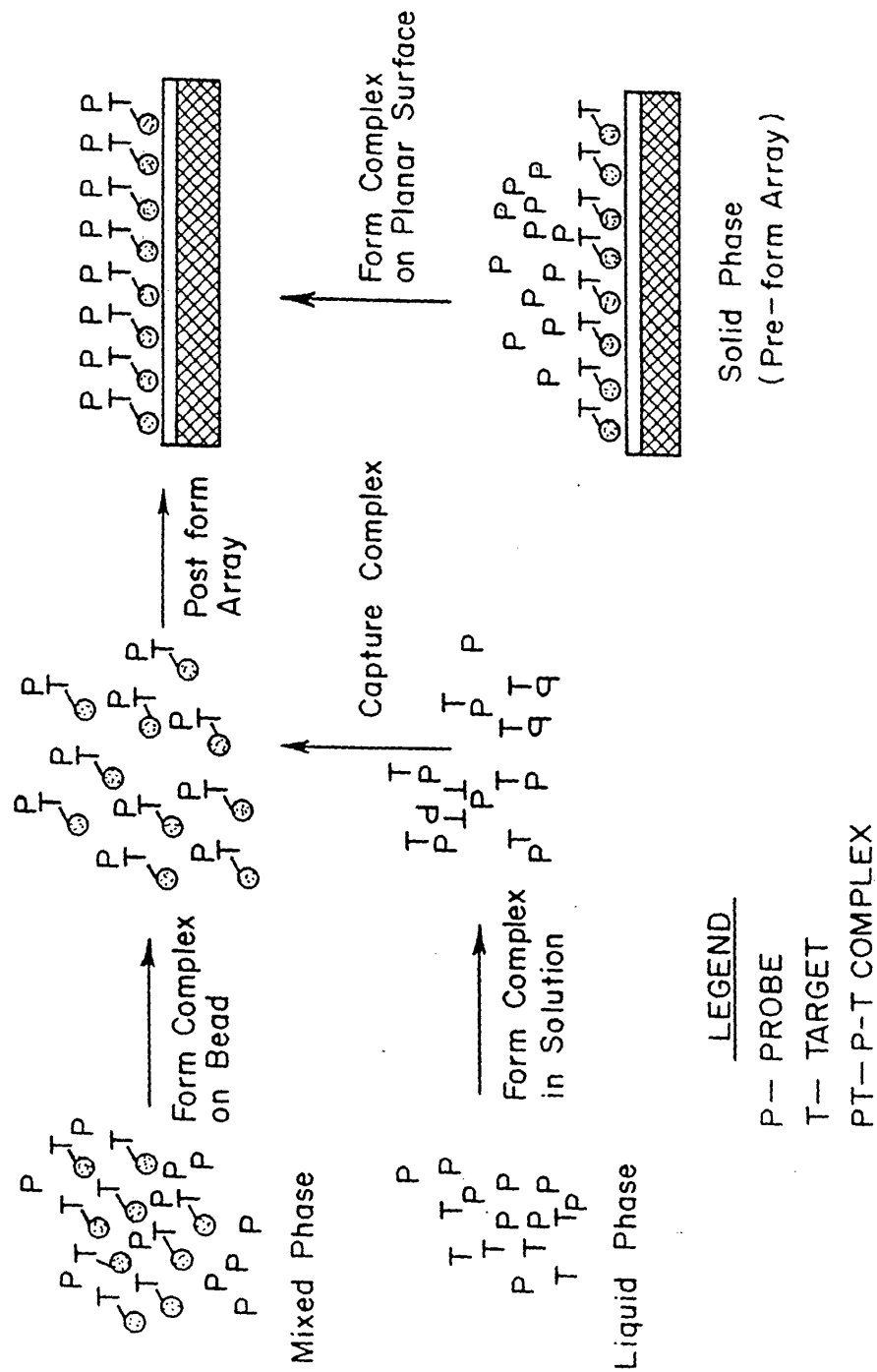


FIG. 9a

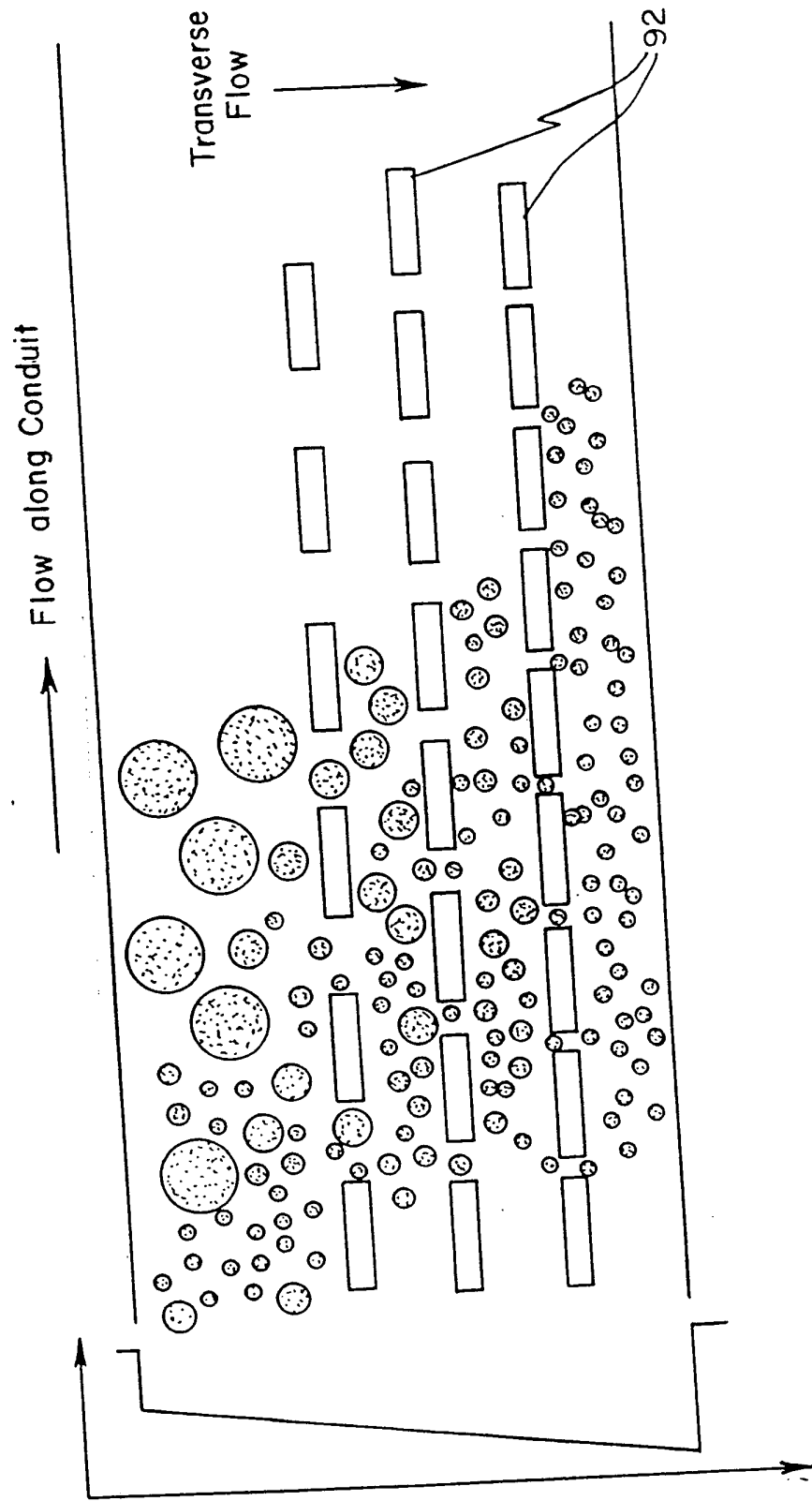


FIG. 9b

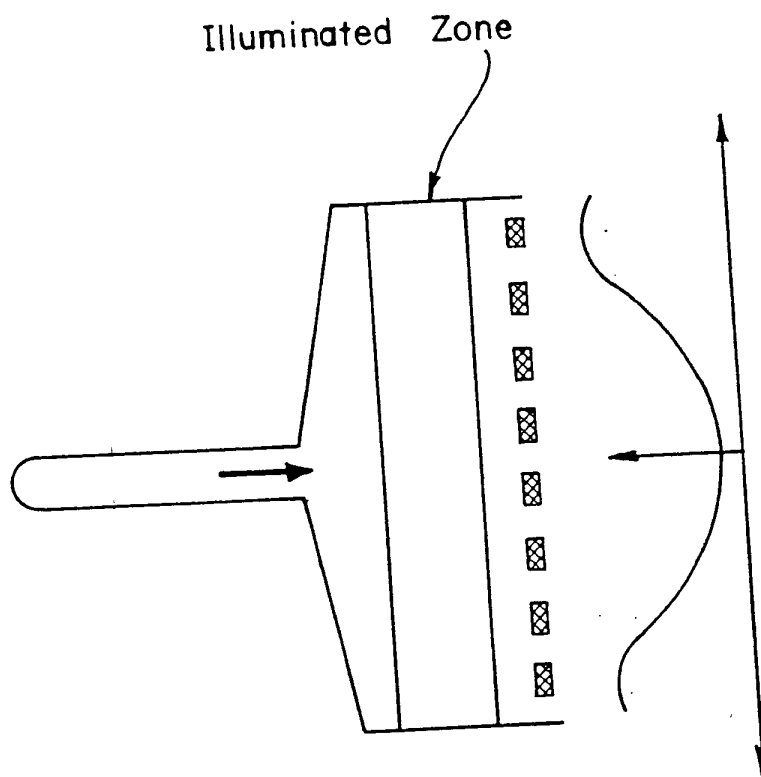


FIG. 9c



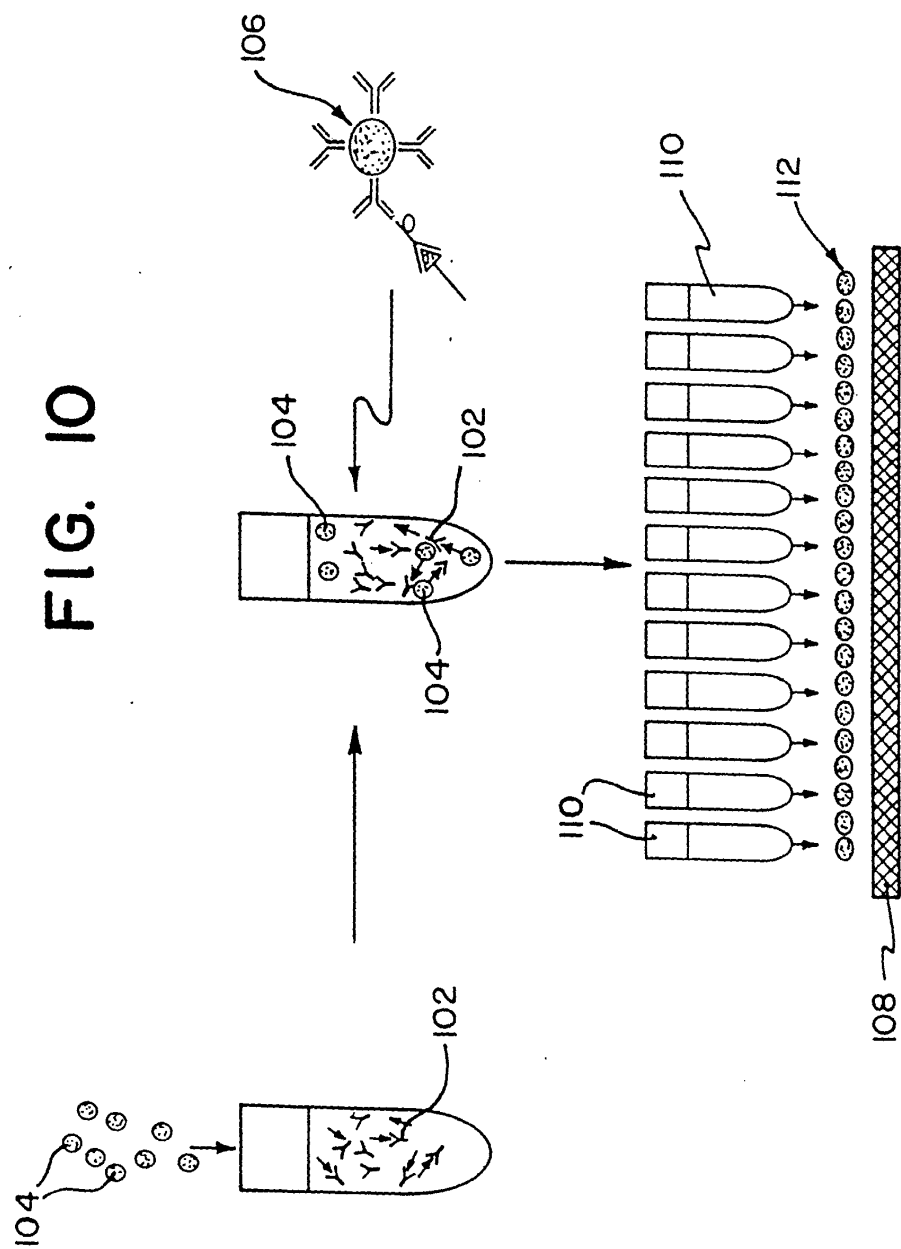


FIG. 11a

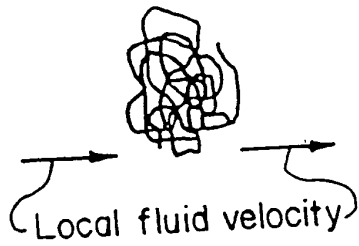


FIG. 11b

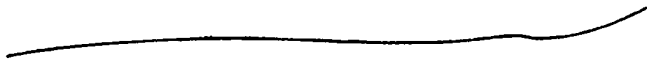


FIG. 11c

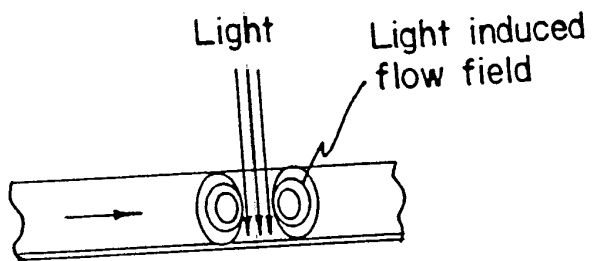


FIG. 11d

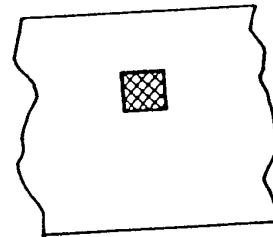
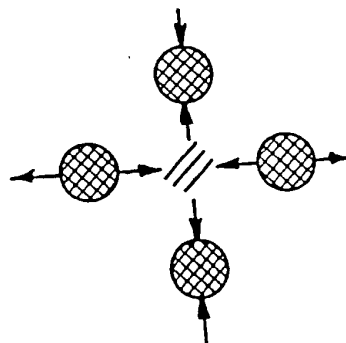


FIG. 11e



ILLUMINATION PATTERN GENERATOR

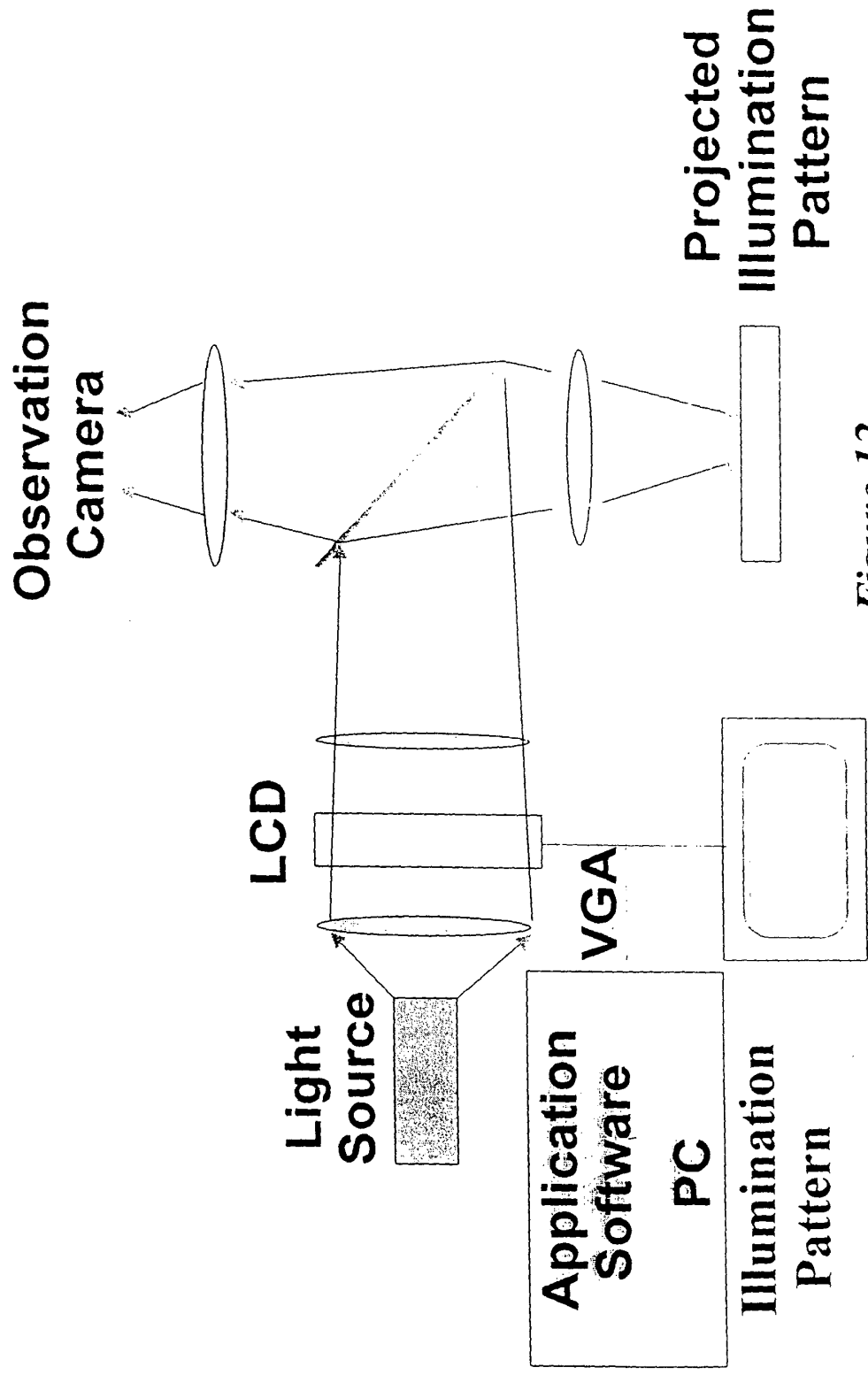


Figure 12

LCD-PARSE OPTICAL DESIGN

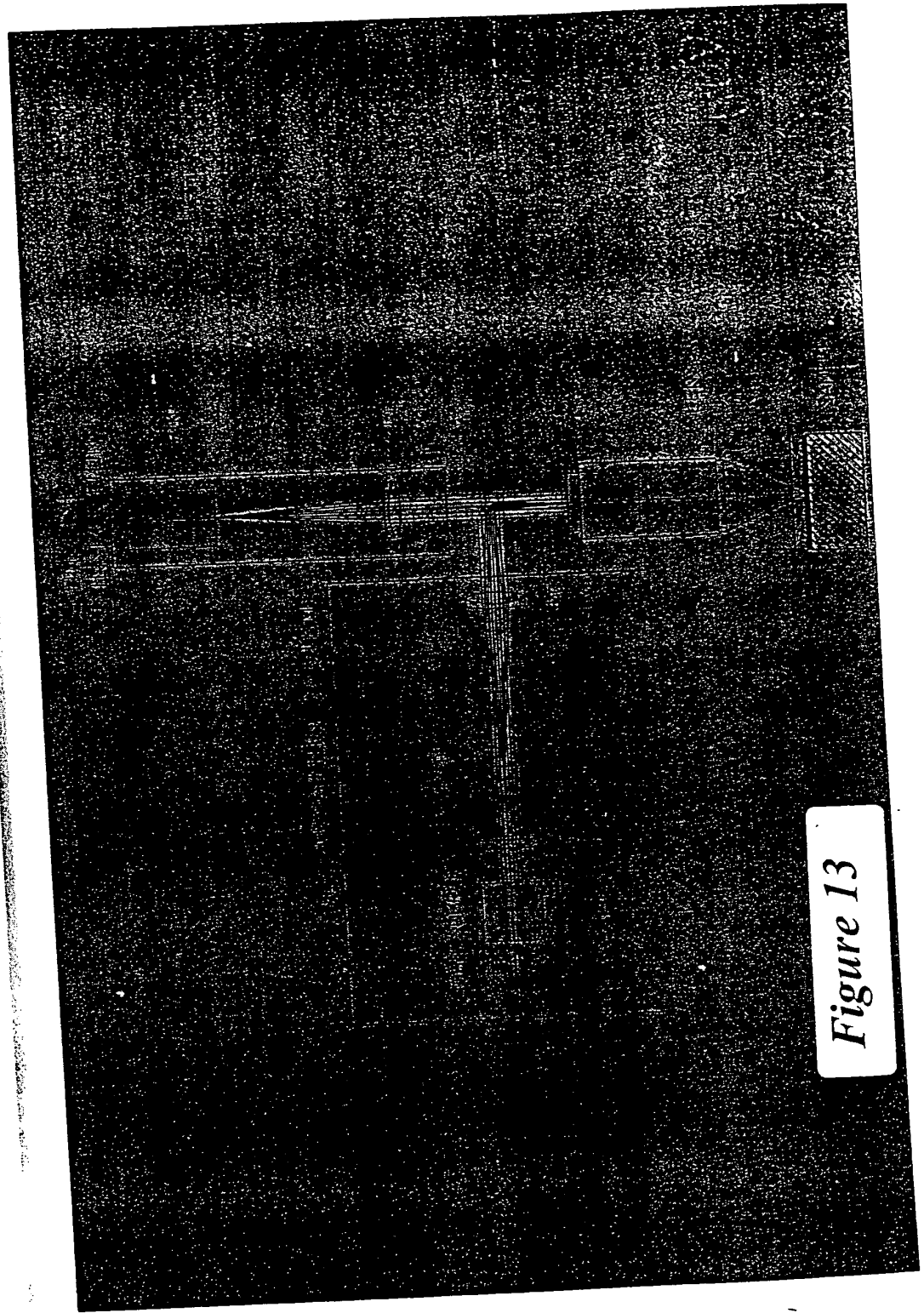


Figure 13

ARRAY SHAPE ADJUSTMENTS

CIRCLE

HORIZONTAL LINE

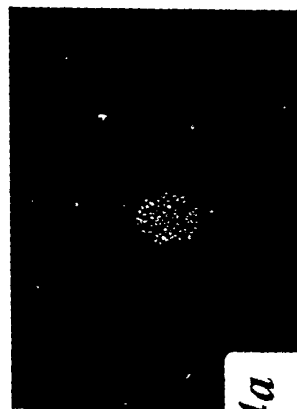


Figure 14a



Figure 14c



Figure 14b

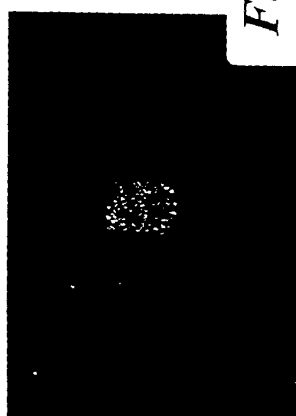


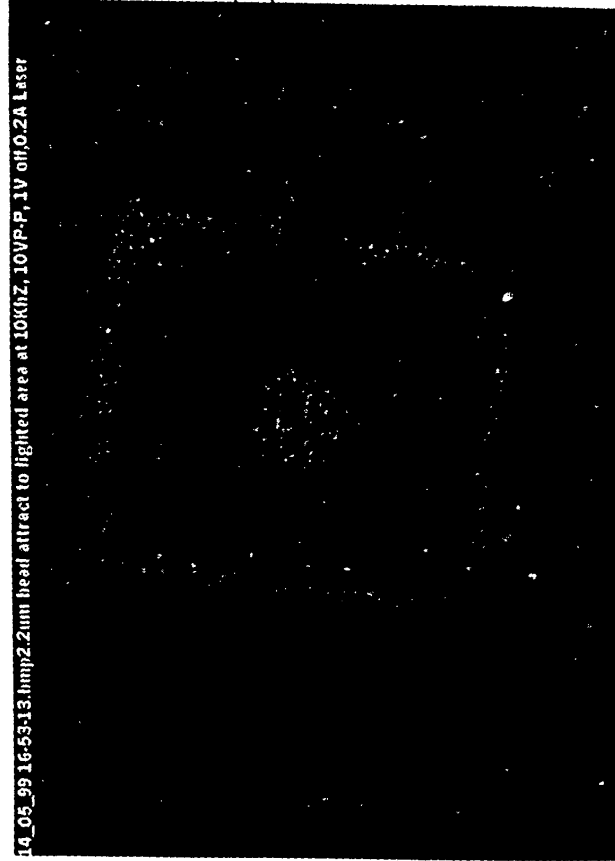
Figure 14d

VERTICAL LINE

SQUARE



COLLECTION AND ARRAY ASSEMBLY



Collected Particles

Figure 15a



EXPULSION AND CONFINEMENT

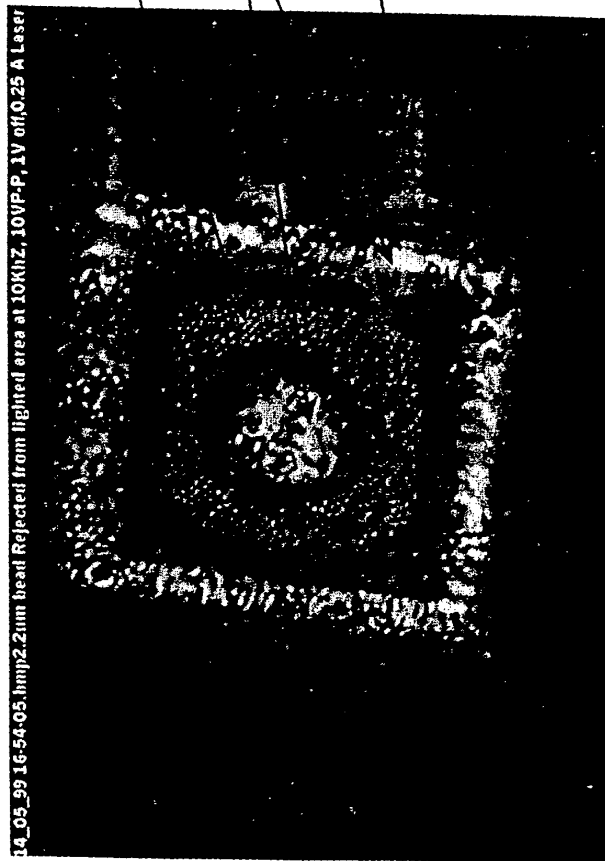


Figure 15b



DRAG AND DROP

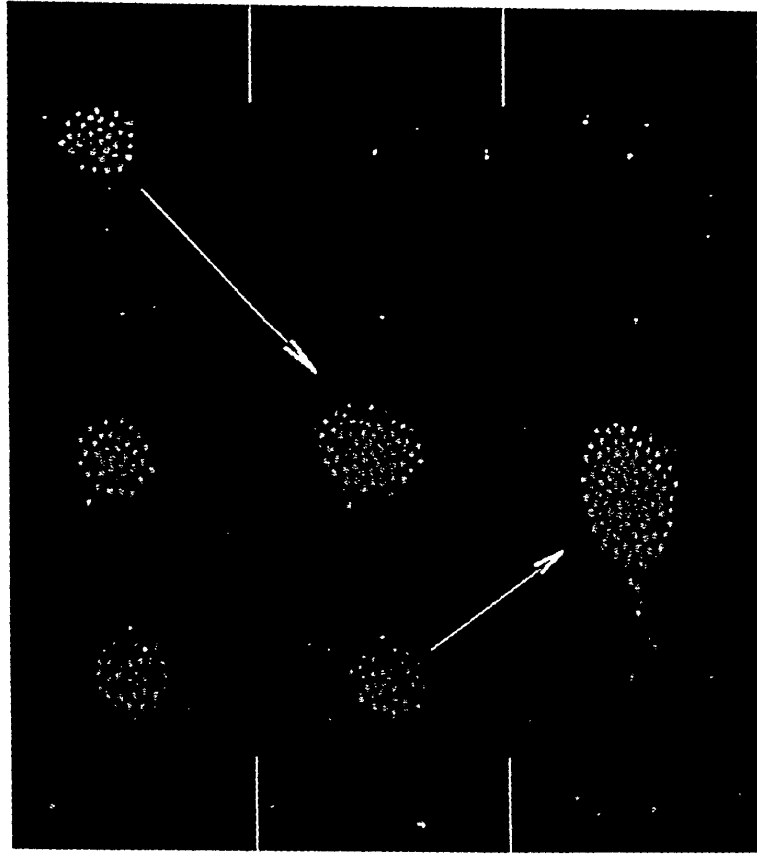


Figure 16



Programmable Array Reconfiguration and Segmentation

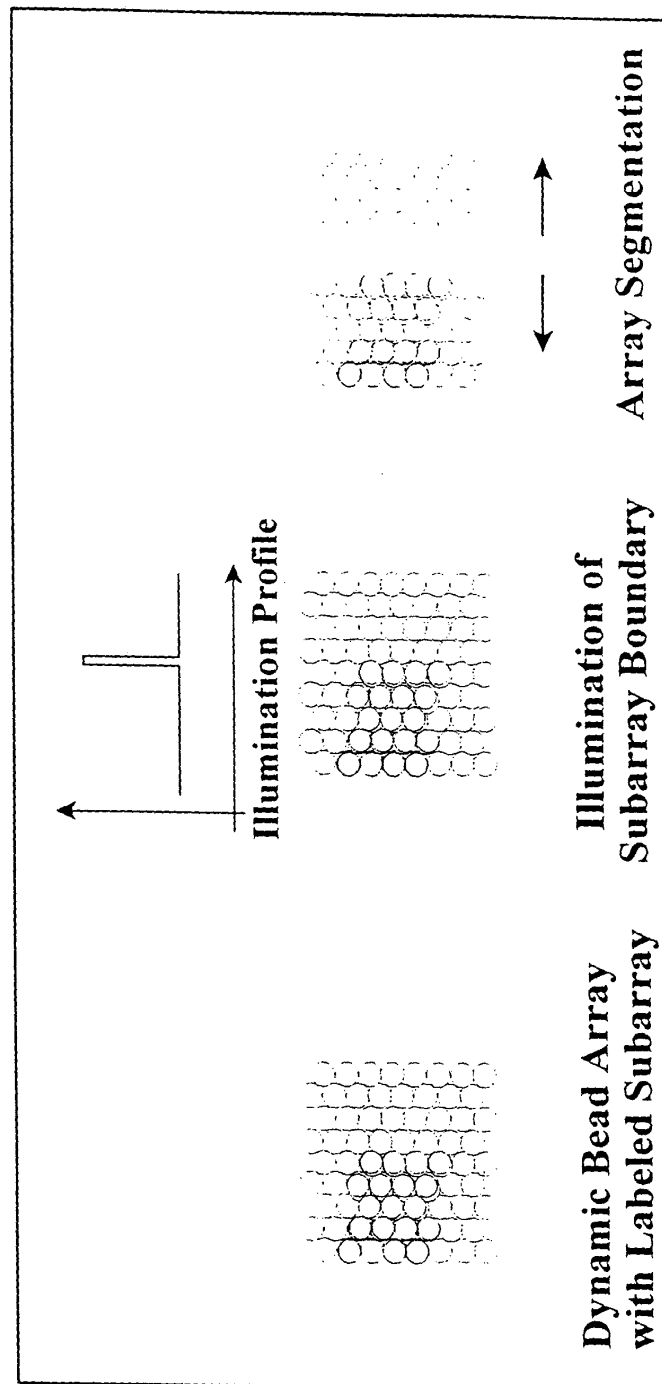


Figure 17

LCD PARSE

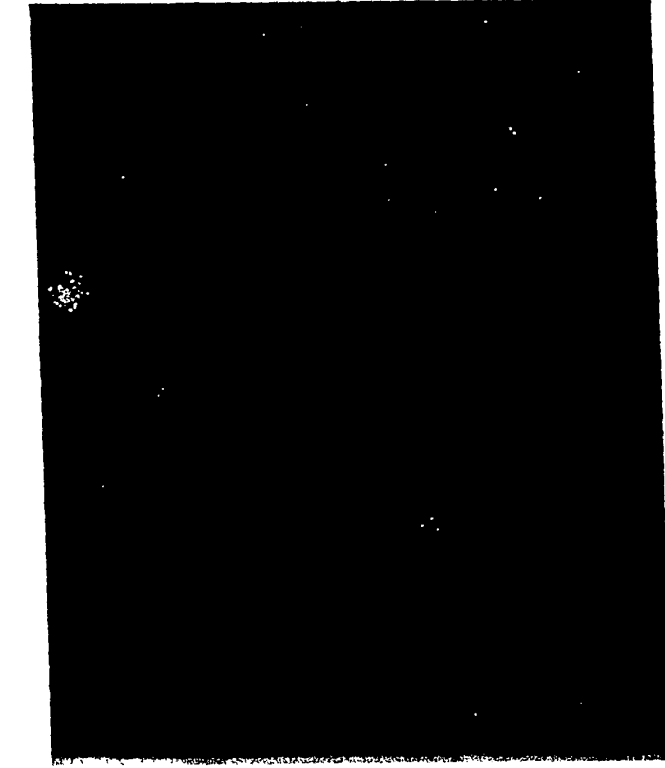


Figure 18a

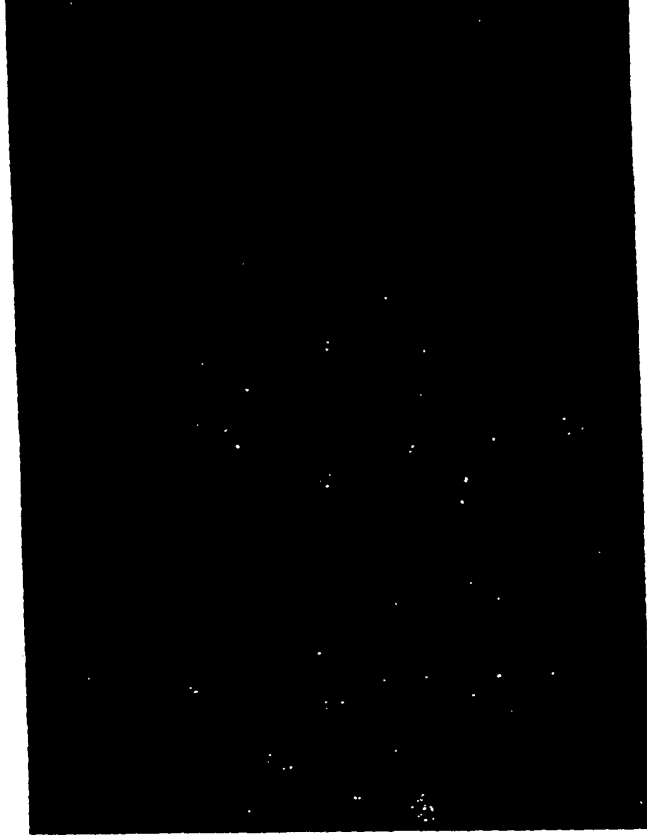


Figure 18b

LCD PARSE

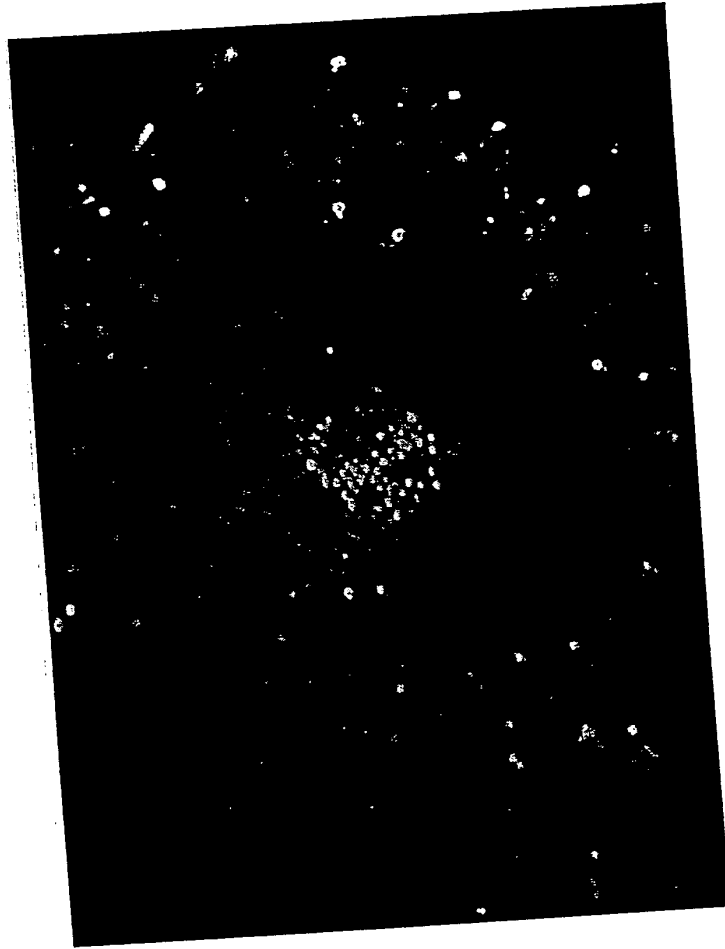
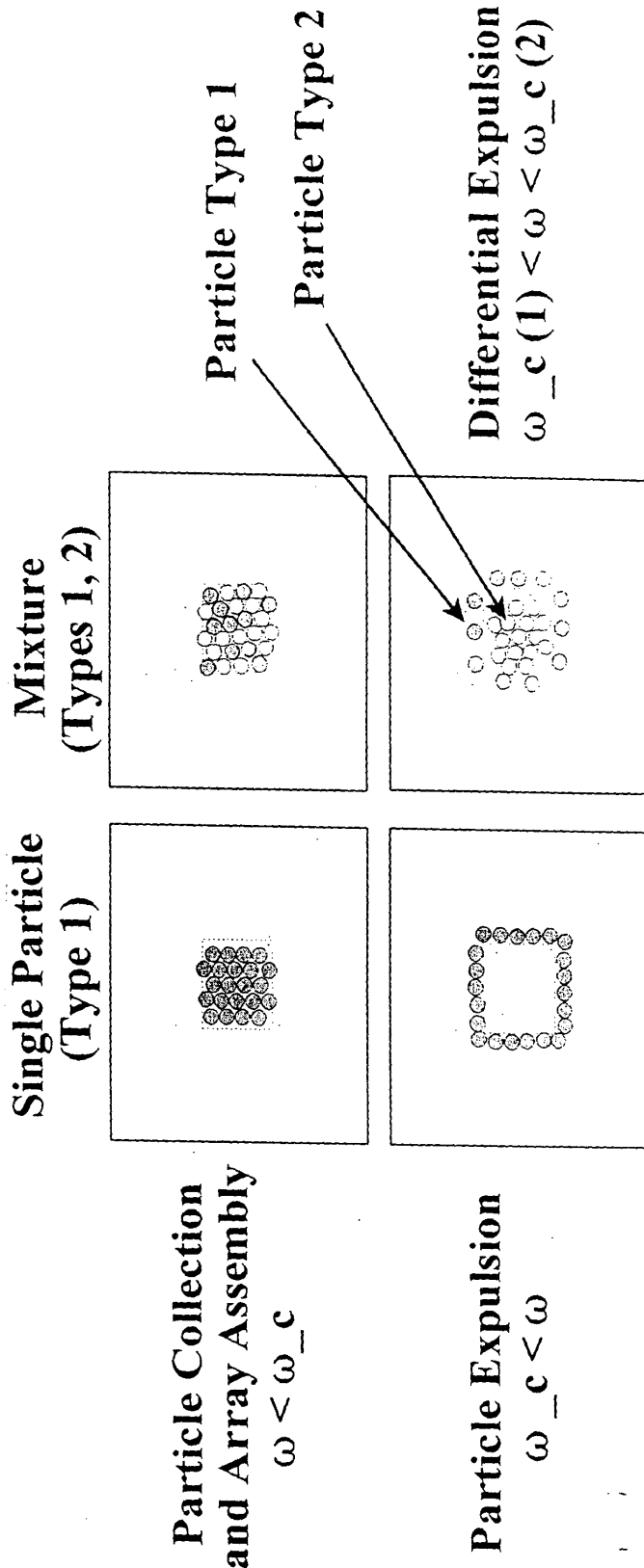


Figure 19



FRACTIONATION

Differential Frequency Dependence of Particle Expulsion
 (NOTE: ω_c denotes a characteristic frequency)



$\omega_c(\text{Type 1}) < \omega_c(\text{Type 2})$

Figure 20a

FRACTIONATION

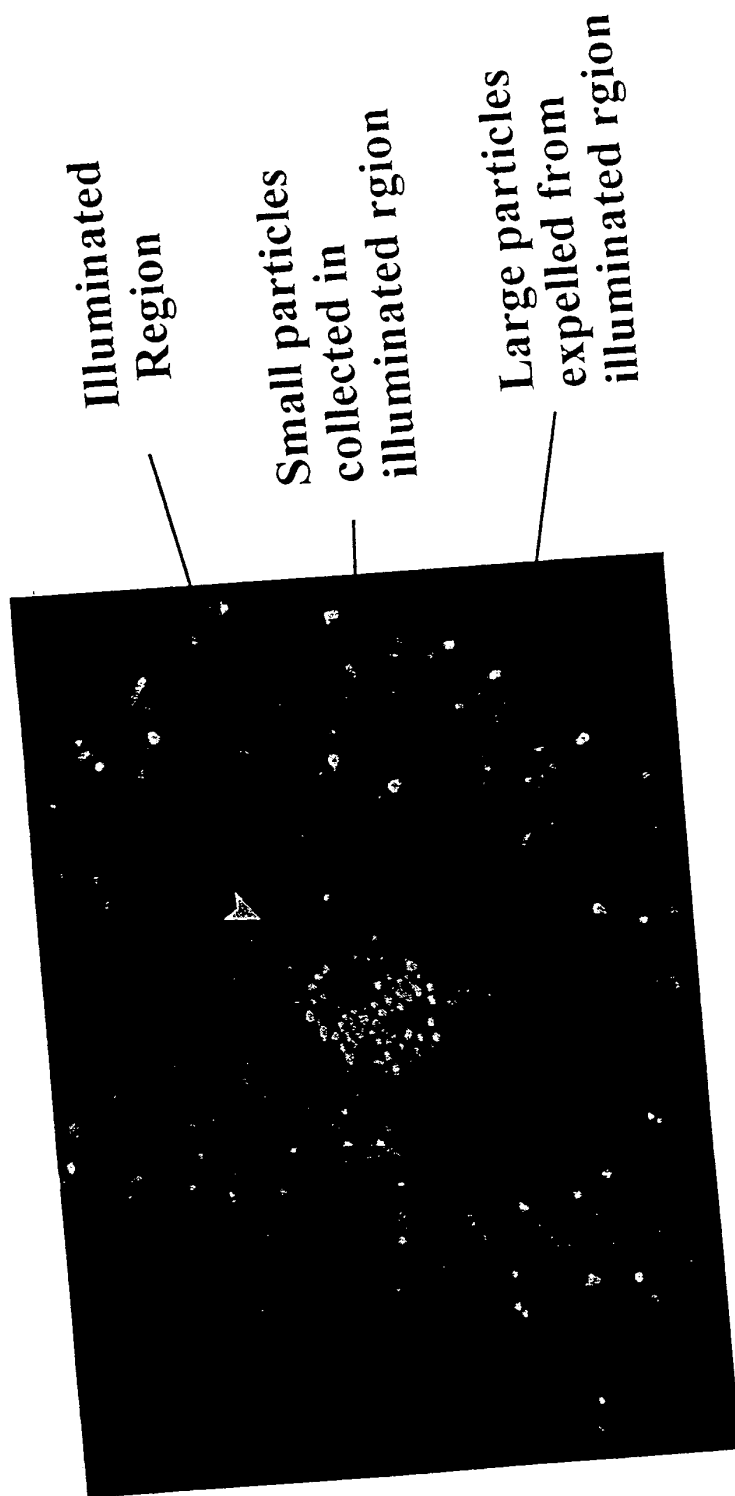


Figure 20b

LCD PARSE

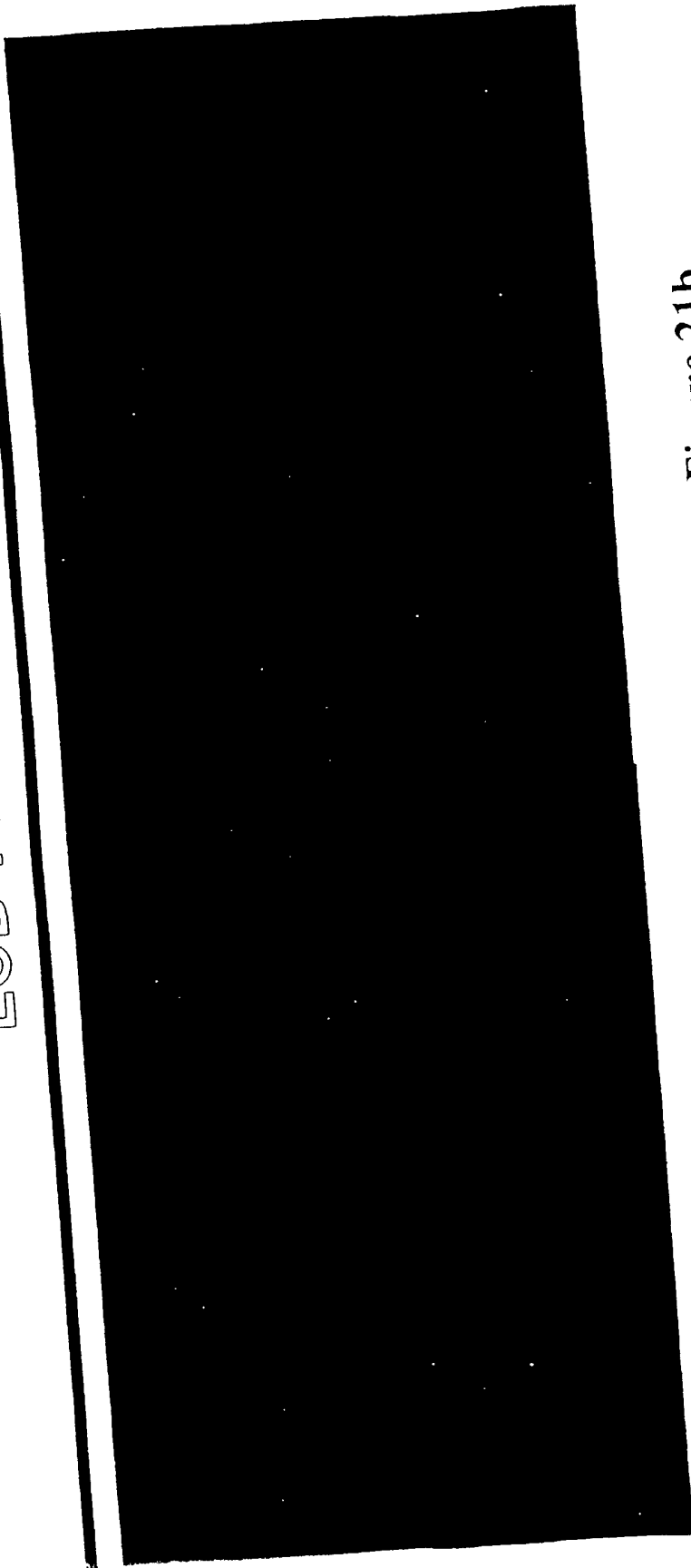


Figure 21a

Figure 21b

Encoding Methodologies

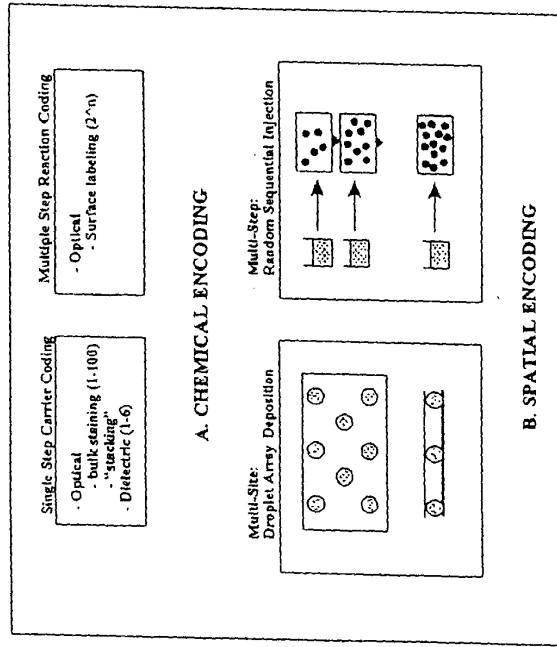


Figure 22a

1 - Pre-Processing

2 - Post-Processing

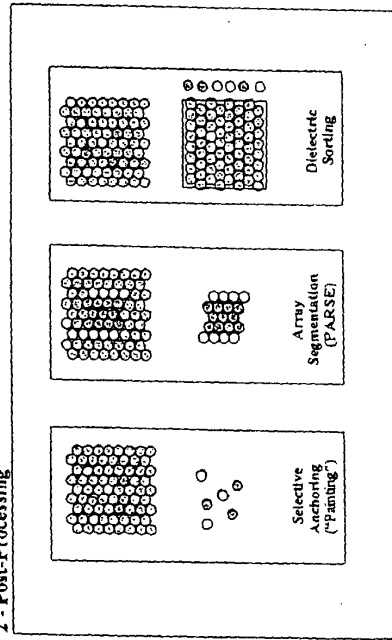


Figure 22b

RANDOM SEQUENTIAL INJECTION

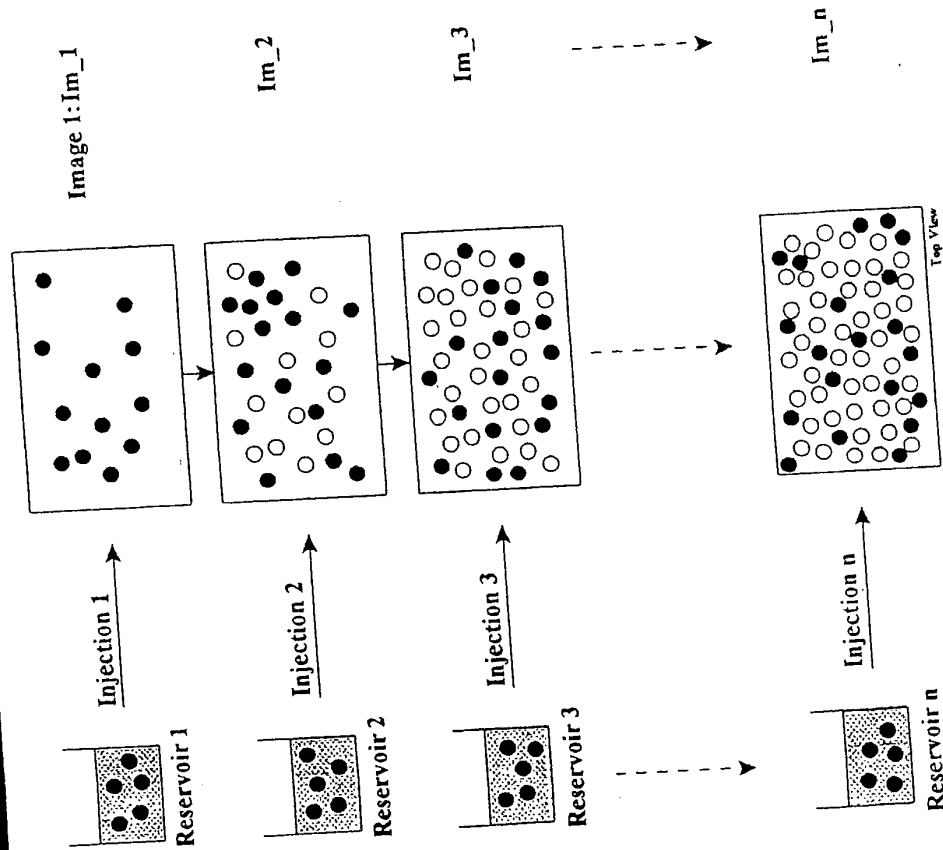


Figure 23

SEQUENTIAL INJECTION & LIGHT-CONTROLLED ARRAY PLACEMENT

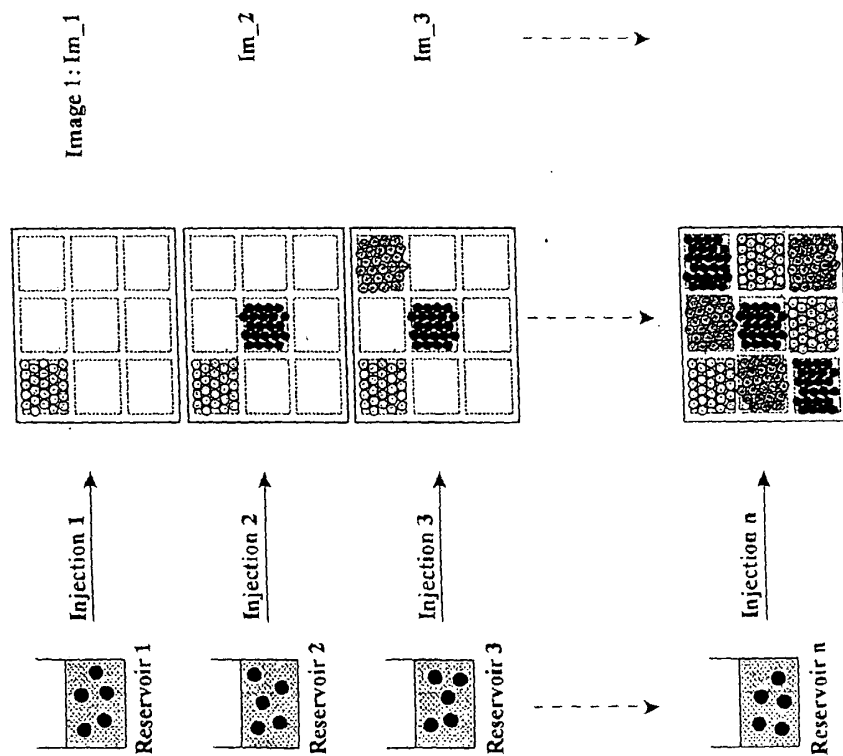


Figure 24

MACRO-TO-MICRO TRANSITION

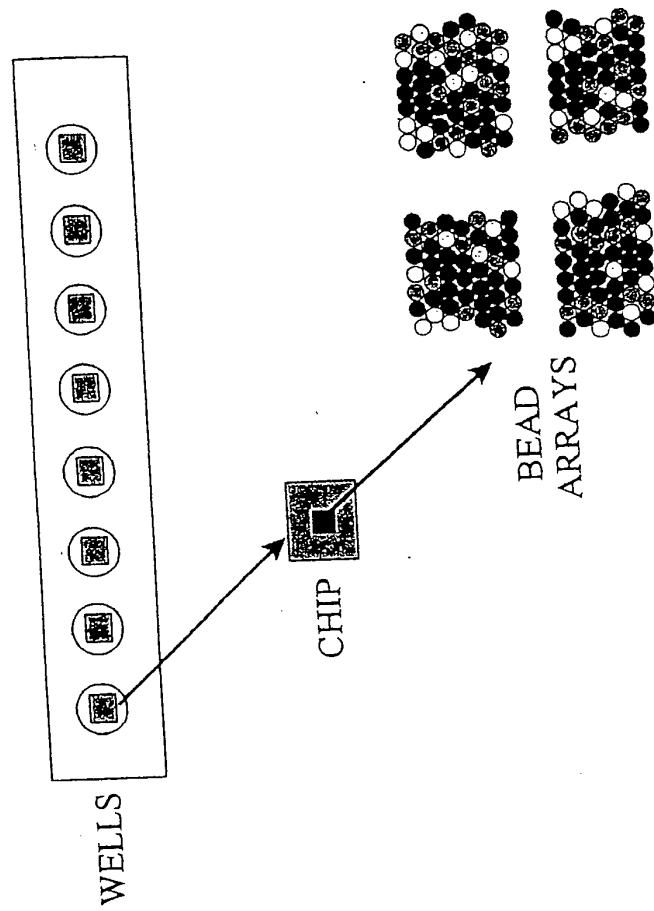


Figure 25a

ARRAY ENCODING

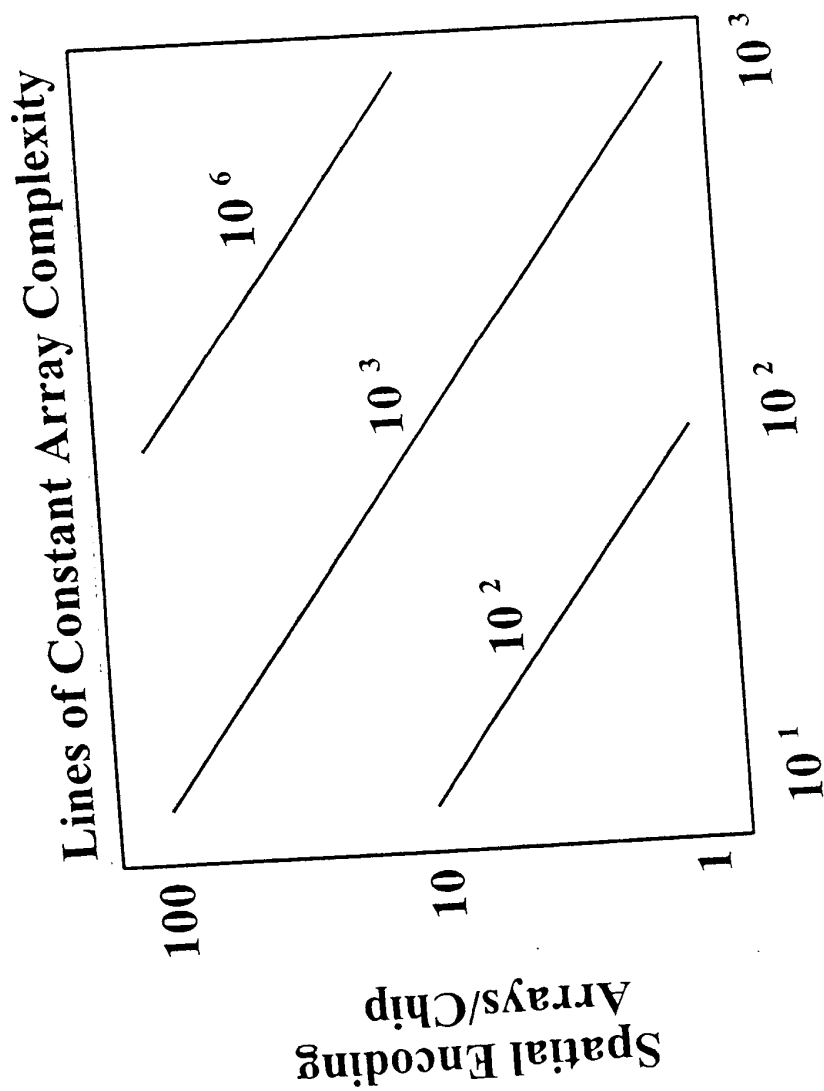


Figure 25b

ARRAY ENCODING

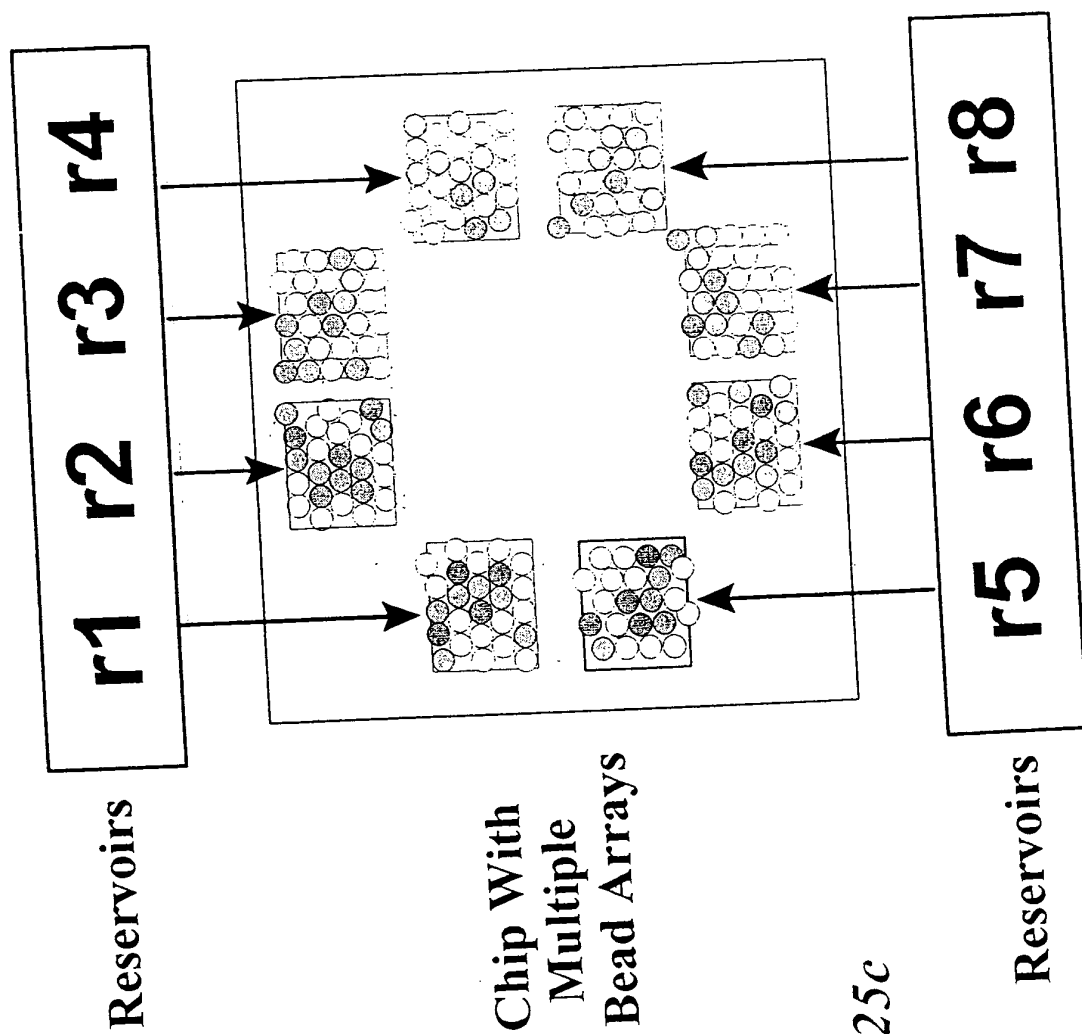


Figure 25c



SEQUENTIAL ASSEMBLY: “BANDING”

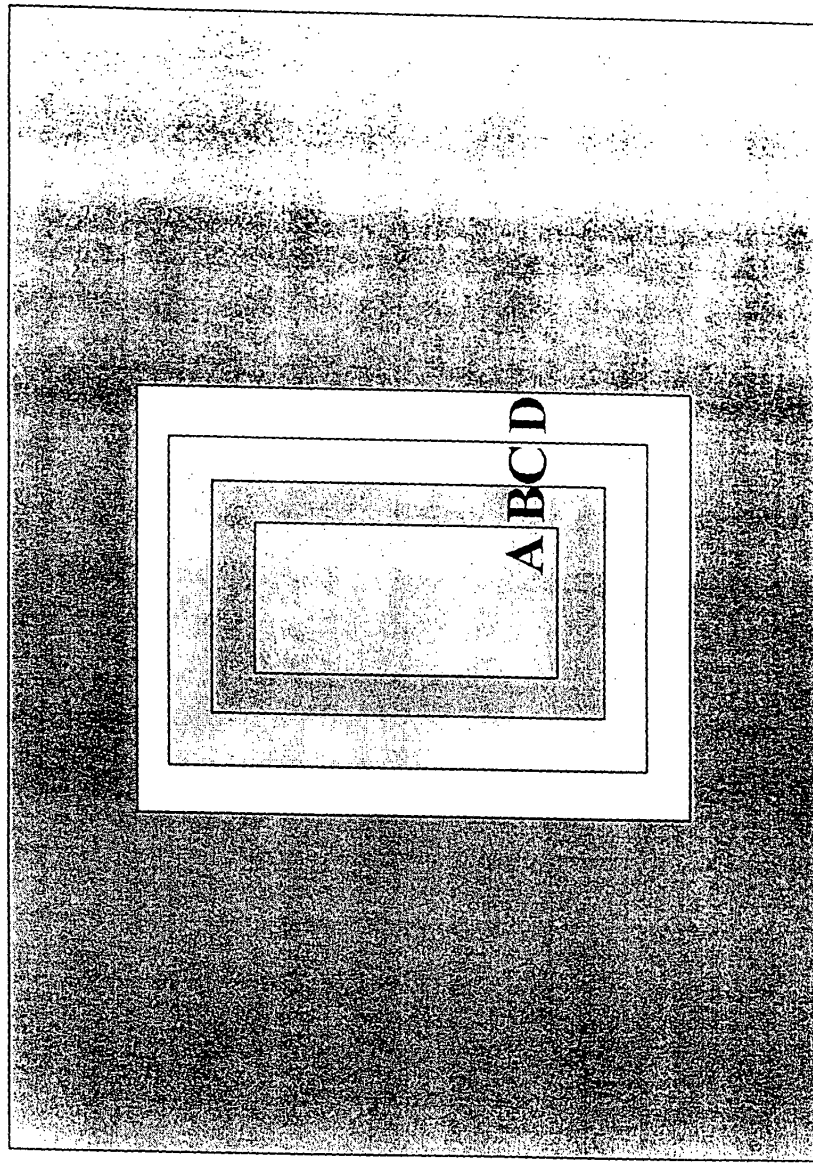


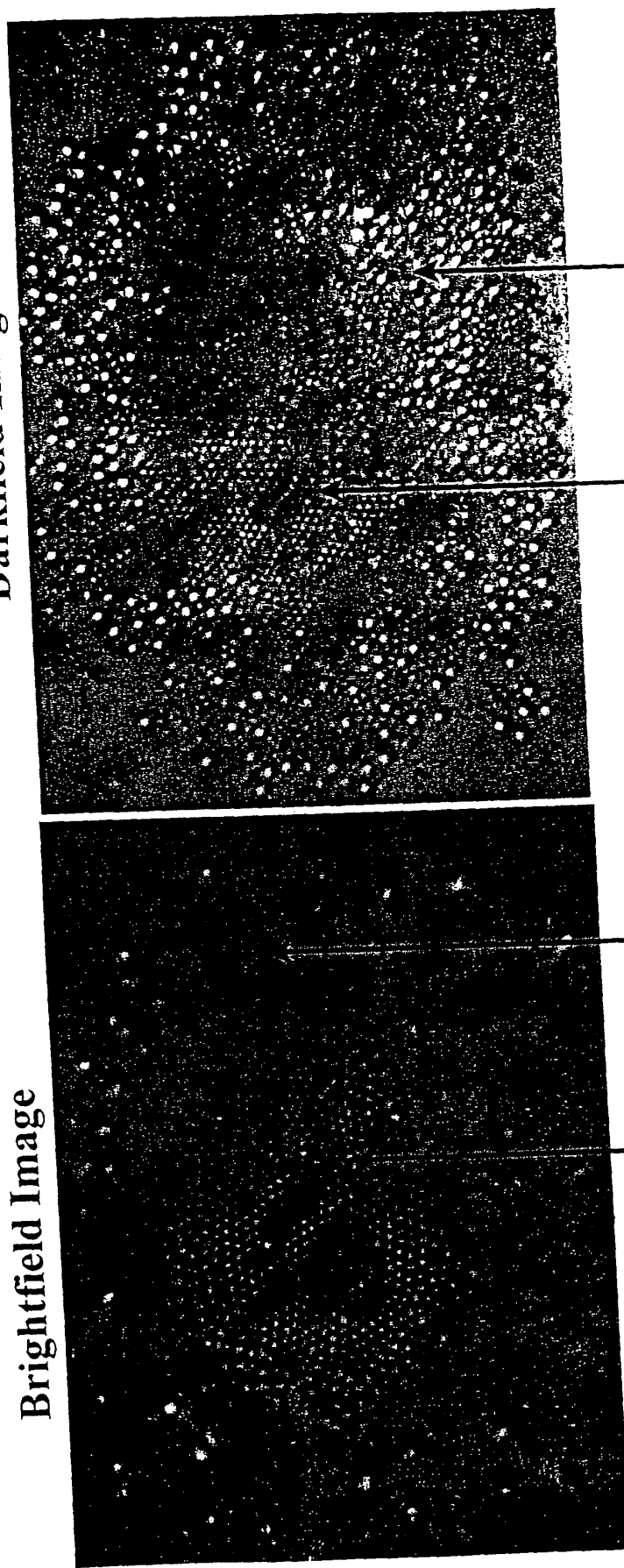
Figure 26a

SEQUENTIAL ASSEMBLY: "BANDING"

Mixture of Two Particle Types

Darkfield Image

Brightfield Image



2.8 μm

5.5 μm

2.8 μm

5.5 μm

Figure 26b

LCD PARSE

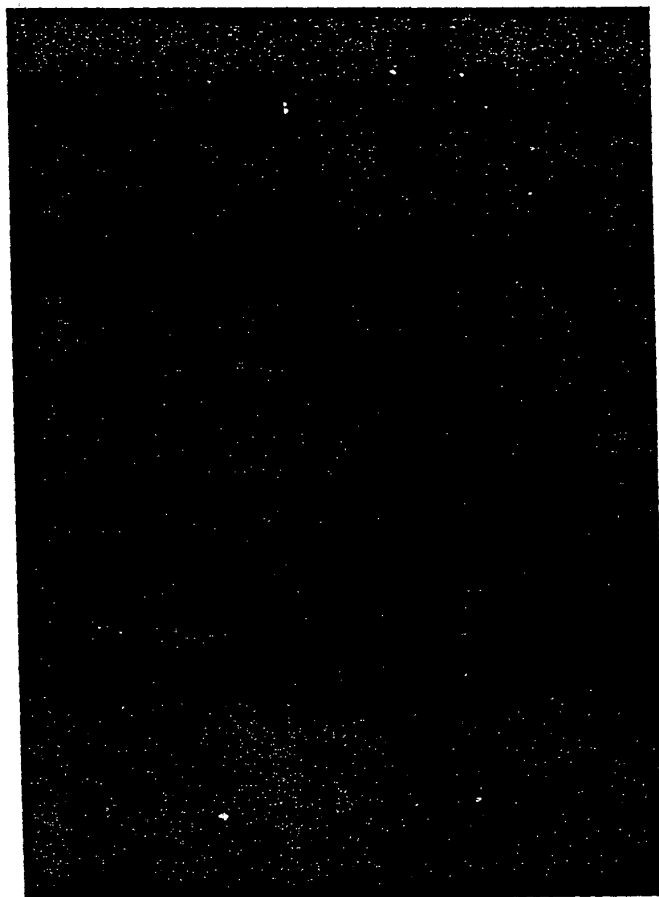


Figure 27



ARRAY OF RANDOM SUBARRAYS

A UNIQUE TWO-DIMENSIONAL BAR CODE

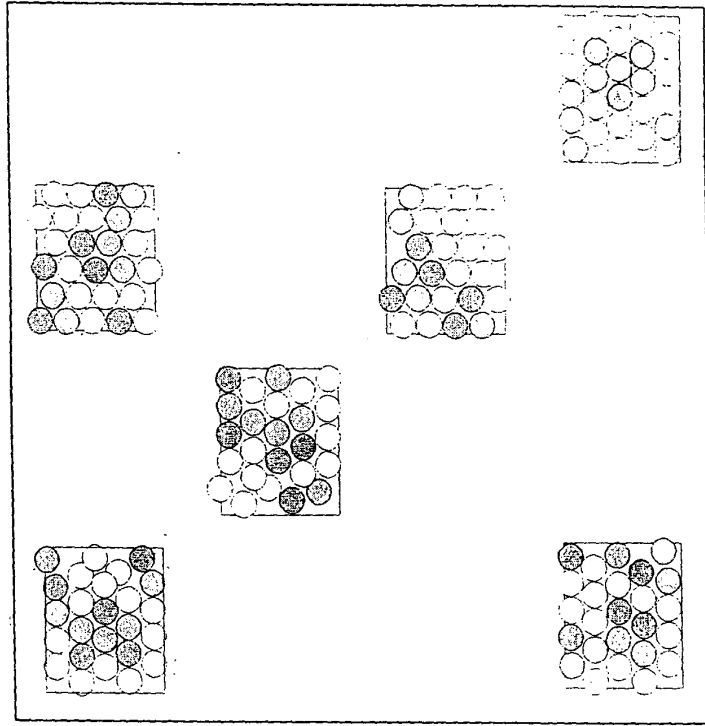


Figure 28



LIGHT-INDUCED FLUID FLOW

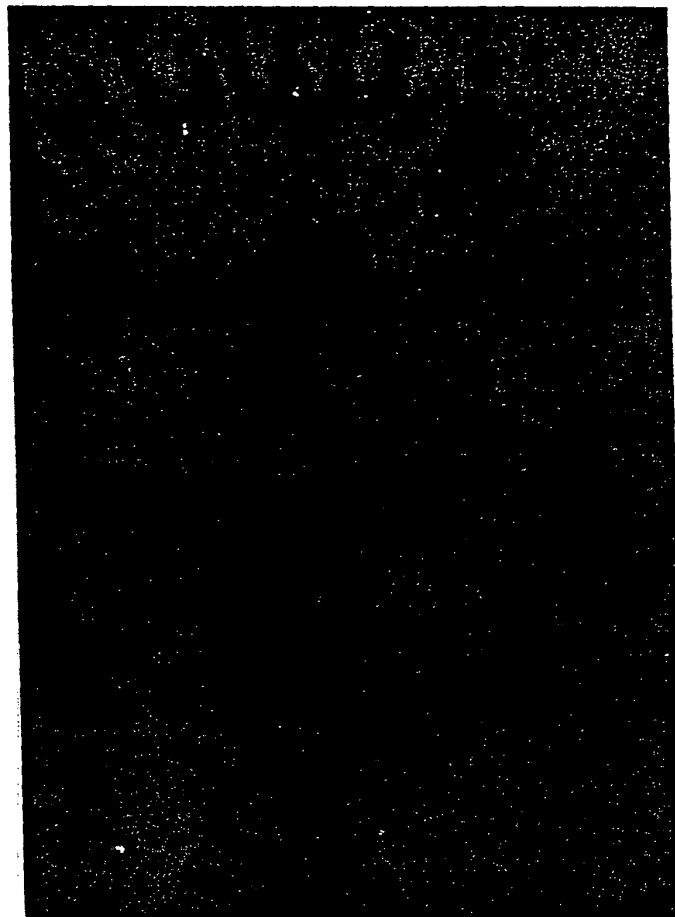


Figure 29